ANNALS of PHYSICS

VOLUME 99
1976

ACADEMIC PRESS
New York and London
A Subsidiary of Harcourt Brace Jovanovich, Publishers

Printed by the St. Catherine Press, Ltd. Bruges, Belgium

CONTENTS OF VOLUME 99

Number 1, July 1976

Eugene P. Gross. Strong Coupling Polaron Theory and Translational Invariance 1

S. P. Merkuriev, C. Gignoux, and A. Laverne. Three-Body Scattering in Configuration Space 30

Alvin M. Saperstein. Kinematically Correct Optical Potentials 72

Seán Browne and Djordje Šijački. On the Irreducible Representations of the Lorentz Group 92

G. David Kerlick. "Bouncing" of Simple Cosmological Models with Torsion 127

H. J. Krappe. Coulomb Energy of Diffuse Nuclear Charge Distributions 142

G. Kramer, G. Schierholz, and K. Sundermeyer. Influence of Anomalous Thresholds in Electron–Positron Annihilation into Hadrons: The $e^+e^- \to \rho\pi\pi$ Cross Section 164

M. Carmeli and M. Kaye. Transformation Laws of the Newman–Penrose Field Variables 188

F. Magri. An Operator Approach to Poisson Brackets 196

Abstracts of Papers to Appear in Future Issues 229

Number 2, August 1976

R. L. Ingraham. Application of Nonperturbative Quantum Field Theoretic Methods to Hadron–Nucleus Collisions: Background Theory . . 231

A. Arima and F. Iachello. Interacting Boson Model of Collective States. I. The Vibrational Limit 253

R. F. Bishop. The Bethe–Goldstone Equation with Singular Interactions: A Fully Off-Shell Solution for the Boundary Condition Model . . . 318

Mahir S. Hussein. Photo–Two Proton Production: A Study in Nuclear Sequential Decay 355

L. S. Kisslinger and W. L. Wang. The Isobar-Doorway Theory for Pion–Nucleus Interactions 374

N. Mukunda. Symmetries and Constraints in Generalized Hamiltonian Dynamics 408

ALFRED SCHILD. Fokker Action Principles with Self-Action. II. Applications of the General Theory to a Single Particle in Uniform Circular Motion; Modified Maxwell–Lorenz Interaction; a Model of the Electron 434

ABSTRACTS OF PAPERS TO APPEAR IN FUTURE ISSUES 459

AUTHOR INDEX FOR VOLUME 99 461

The Subject Index for Volume 99 will appear in the December 1976 issue as part of a cumulative index for the year 1976.

Laser Light Scattering

By
BENJAMIN CHU
Chemistry Department
State University of New York at Stony Brook
Stony Brook, N.Y.

A Volume in the
QUANTUM ELECTRONICS Series

1974, 336 pp., $31.50/£15.10

This book, intended to serve as an introduction to the interdisciplinary area of laser light scattering, concentrates almost exclusively upon quasielastic laser scattering techniques. The book begins with a review of classical electricity and magnetism, along with the general scattering theory, and then continues with such topics as the basic theoretical concepts related to light mixing spectroscopy, photon-counting fluctuations, Fabry-Perot interferometry, experimental methods, and many others.

The book will be of great value to physicists; biologists, chemists, and engineers will find it most interesting.

CONTENTS:

Introduction
Brief Review of Classical Electricity and Magnetism
Scattering Theory
Light Mixing Spectroscopy
Interferometry
Photon-Counting Fluctuations
Experimental Methods
Macromolecules
Reaction Kinetics — Concentration Correlation Spectroscopy
Anemometry
Critical Opalescence
Author Index—Subject Index.

AP 7139

ACADEMIC PRESS, INC.
A Subsidiary of Harcourt Brace Jovanovich, Publishers
111 FIFTH AVENUE, NEW YORK, NEW YORK 10003
24-28 OVAL ROAD, LONDON NW1 7DX